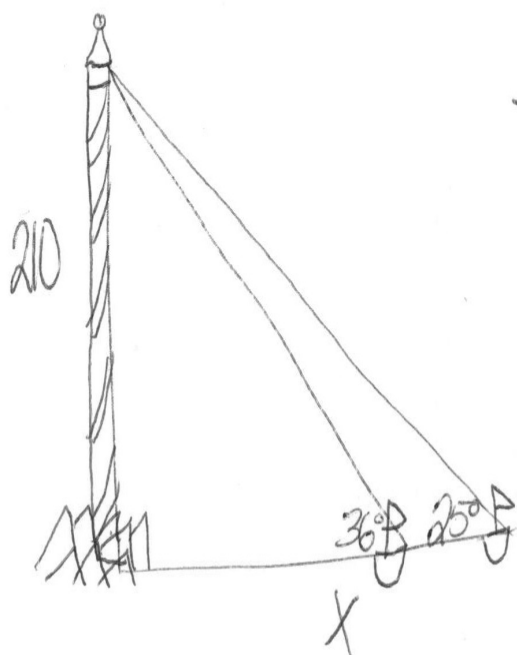From the top of a lighthouse 210 feet tall the lighthouse keeper sights two boats coming into the harbor, one behind the other. The angle of depression to the farthest boat is measured at 25° and to the nearest 36°. How far apart are the two boats?

Make and label a diagram for the situation, show all of your work and calculations, and round your answer to the nearest foot.

$$Tan\ 36 = \frac{210}{X}$$

$$210 \div Tan\ 36 = 289.$$

$$Tan\ 25 = \frac{210}{X}$$

$$210 \div Tan\ 25 = 450$$

$$450 - 289 = 161\ ft.$$

161 ft apart.